

### Claims

Claims 1-19 (cancelled)

20. (currently amended) ~~The method of claim 18~~ A method comprising:  
providing a chalcogenide vapor comprising As and chalcogen in a molar ratio of X,  
wherein X is between about 1:19 and about 3:4; and  
growing substantially amorphous chalcogenide nanowires on a preselected portion of a  
substrate exposed to the chalcogenide vapor wherein the chalcogenide nanowires have a molar  
ratio of As to chalcogen within about 10% of X, and wherein the chalcogenide nanowires are  
grown on a biocompatible surface of an implant.

21. (currently amended) ~~The method of claim 18~~ A method comprising:  
providing a chalcogenide vapor comprising As and chalcogen in a molar ratio of X,  
wherein X is between about 1:19 and about 3:4; and  
growing substantially amorphous chalcogenide nanowires on a preselected portion of a  
substrate exposed to the chalcogenide vapor wherein the chalcogenide nanowires have a molar  
ratio of As to chalcogen within about 10% of X, and wherein the chalcogenide nanowires are  
grown on an optical fiber.

22. (original) The method of claim 21 wherein the optical fiber is substantially  
transparent to infrared light.

Claims 23-40 (cancelled)

41. (currently amended) ~~The method of claim 40~~ A method comprising:  
providing microscale structures on an implant by subliming a material to provide a vapor  
phase and depositing the vapor phase onto a surface of the implant such that microscale  
structures of the vapor phase are formed on a preselected portion of the implant wherein the  
structures comprise nanowires, and wherein the nanowires comprise chalcogenide.

42. (currently amended) ~~The method of claim 39~~ A method comprising:  
providing microscale structures on an implant by subliming a material to provide a vapor  
phase and depositing the vapor phase onto a surface of the implant such that microscale  
structures of the vapor phase are formed on a preselected portion of the implant wherein the  
structures comprise chalcogenide.

43. (original) The method of claim 42 wherein the chalcogenide comprises Se.

Claim 44 (cancelled)

45. (currently amended) ~~The method of claim 44~~ A method comprising:  
providing microscale structures on an implant by subliming a material to provide a vapor  
phase and depositing the vapor phase onto a surface of the implant such that microscale  
structures of the vapor phase are formed on a preselected portion of the implant wherein the  
structures comprise micro-crystals and wherein the micro-crystals comprise As<sub>2</sub>O<sub>3</sub>.